

## CLAIMS

What is claimed is:

- 1           1.     A system comprising:
  - 2     a first dispatcher having a local dispatch table including data;
  - 3     at least a second dispatcher coupled with the first dispatcher, the second dispatcher
  - 4         having a local dispatch table including at least a portion of the data; and
  - 5     a plurality of servers coupled with each of the first dispatcher and the second dispatcher.
- 1           2.     The system of claim 1, further comprising a router having a port coupled
  - 2     with each of the first dispatcher and the second dispatcher.
- 1           3.     The system of claim 2, the port of the router exhibiting port trunking.
- 1           4.     The system of claim 1, the first dispatcher and the second dispatcher
  - 2     exhibiting identical network addresses.

5. A system comprising:

a router having a port;

a first dispatcher coupled with the port, the first dispatcher having a local dispatch table

including at least one session entry identifying a client and a selected server;

at least a second dispatcher coupled with the port, the second dispatcher having a local

dispatch table including a session entry identifying the client and the selected

server;

a network, each of the first dispatcher and the second dispatcher coupled with the

network; and

a plurality of servers, each of the plurality of servers coupled with the network.

6. The system of claim 5, the network comprising a system area network.

7. The system of claim 6, the system area network exhibiting an InfiniBand<sup>®</sup>  
architecture.

8. The system of claim 5, wherein the router is coupled with one of a Local  
Area Network, a Wide Area Network, a Metropolitan Area Network, and the Internet.

9. The system of claim 5, the port of the router exhibiting port trunking.

1           10.     The system of claim 5, the first dispatcher and the second dispatcher  
2 exhibiting identical network addresses.

1           11.     The system of claim 5, the plurality of servers comprising:  
2 a first server group providing a first application; and  
3 at least a second server group providing a second, different application.

1           12.     The system of claim 11, each of the first server group and the second  
2 server group comprising at least one server.

1           13.     A method comprising:  
2 maintaining a local dispatch table in each dispatcher of a plurality of dispatchers, said  
3 each dispatcher coupled with a plurality of servers; and  
4 placing at least shared data in the local dispatch table of said each dispatcher.

1           14.     The method of claim 13, further comprising broadcasting a dispatch table  
2 update from one dispatcher to all other dispatchers of the plurality of dispatchers.

1           15.     The method of claim 13, the shared data identifying at least one client and  
2 a selected server of the plurality of servers.

1           16.     A method comprising:  
2     placing a session entry in a local dispatch table of one dispatcher of a plurality of  
3           dispatchers, the session entry identifying a client and a server selected from a  
4           plurality of servers coupled with the plurality of dispatchers; and  
5     broadcasting a dispatch table update to all other dispatchers of the plurality of  
6           dispatchers, the dispatch update identifying the client and the selected server.

1           17.     The method of claim 16, further comprising placing a session entry in a  
2     local dispatch table of each dispatcher of said all other dispatchers, the session entry  
3     identifying the client and the selected server.

1           18.     The method of claim 16, further comprising transmitting a packet from  
2     said one dispatcher to the selected server.

1           19.     A method comprising:  
2     receiving a packet at one dispatcher of a plurality of dispatchers, the packet including a  
3           connection request from a client;  
4     placing a session entry in a local dispatch table of said one dispatcher, the session entry  
5           identifying the client and a server selected from a plurality of servers coupled  
6           with the plurality of dispatchers; and  
7     broadcasting a dispatch table update to all other dispatchers of the plurality of  
8           dispatchers.

1           20.     The method of claim 19, further comprising:

2     receiving the dispatch table update at each dispatcher of said all other dispatchers; and  
3     placing a session entry in a local dispatch table of said each dispatcher, the session entry  
4           identifying the client and the selected server.

1           21.     The method of claim 19, further comprising:

2     receiving a second packet at another dispatcher of the plurality of dispatchers;  
3     searching the local dispatch table of said another dispatcher to identify the selected  
4           server; and  
5     transmitting the second packet to the selected server.

1           22.     The method of claim 21, wherein said another dispatcher and said one  
2     dispatcher comprise the same dispatcher of the plurality of dispatchers.

1           23.     The method of claim 21, wherein the second packet includes a termination  
2     request from the client, the method further comprising:  
3     removing the session entry from the local dispatch table of said another dispatcher; and  
4     broadcasting another dispatch table update from said another dispatcher to all remaining  
5           dispatchers of the plurality of dispatchers, said another dispatch table update  
6           indicating the removal of the session entry.

1           24.     The method of claim 23, further comprising removing the session entry  
2     from the local dispatch table of each dispatcher of the remaining dispatchers.

1           25.     The method of claim 23, further comprising terminating a session  
2     corresponding to the session entry.

1           26.     A method comprising:  
2     receiving a packet at a router coupled with a plurality of dispatchers, the plurality of  
3     dispatchers coupled with a plurality of servers;  
4     selecting a dispatcher from the plurality of dispatchers; and  
5     transmitting the packet to the selected dispatcher.

1           27.     The method of claim 26, further comprising arbitrarily selecting the  
2     selected dispatcher from the plurality of dispatchers.

1           28.     The method of claim 26, further comprising:  
2     searching a local dispatch table of the selected dispatcher to determine a selected server  
3     of the plurality of servers; and  
4     transmitting the packet from the selected dispatcher to the selected server.

1           29.    A method comprising:  
2    receiving a packet at a router having a port coupled with a plurality of communication  
3           links, each of the plurality of communication links coupled with one dispatcher of  
4           a plurality of dispatchers, the plurality of dispatchers coupled with a plurality of  
5           servers;  
6    selecting a communication link from the plurality of communication links; and  
7    transmitting the packet over the selected communication link to a corresponding  
8           dispatcher coupled with the selected communication link.

1           30.    The method of claim 29, further comprising arbitrarily selecting the  
2    selected communication link from the plurality of communication links.

1           31.    The method of claim 29, further comprising:  
2    searching a local dispatch table of the corresponding dispatcher to determine a selected  
3           server of the plurality of servers; and  
4    transmitting the packet from the corresponding dispatcher to the selected server.

1           32.    A method comprising:  
2    receiving a packet at one dispatcher of a plurality of dispatchers, the plurality of  
3           dispatchers coupled with a plurality of servers;  
4    searching a local dispatch table of said one dispatcher;  
5    transmitting the packet from said one dispatcher to a server of the plurality of servers if  
6           the local dispatch table identifies the server; and  
7    transmitting the packet from said one dispatcher to a locking dispatcher of the plurality of  
8           dispatchers if the local dispatch table includes a client lock.

1           33.    The method of claim 32, wherein the local dispatch table includes the  
2    client lock, the method further comprising:  
3    selecting a server from the plurality of servers; and  
4    transmitting the packet from the locking dispatcher to the selected server.

1           34.    The method of claim 33, further comprising broadcasting a dispatch table  
2    update from the locking dispatcher to all other dispatchers of the plurality of dispatchers,  
3    the dispatch table update identifying the selected server and indicating removal of the  
4    client lock.



1           35.     A method comprising:

2     receiving a first packet at one dispatcher of a plurality of dispatchers, the first packet  
3           including a connection request from a client;  
4     creating a client lock on packets received from the client; and  
5     broadcasting a dispatch table update from said one dispatcher to all other dispatchers of  
6           the plurality of dispatchers, the dispatch table update indicating the client lock.

1           36.     The method of claim 35, further comprising:

2     receiving at least a second packet at another dispatcher of the plurality of dispatchers; and  
3     transmitting the second packet from said another dispatcher to said one dispatcher.

1           37.     The method of claim 36, further comprising:

2     selecting a server from a plurality of servers coupled with the plurality of dispatchers; and  
3     transmitting the first packet and the second packet to the selected server.

1           38.     The method of claim 37, further comprising broadcasting another dispatch

2     table update from said one dispatcher to said all other dispatchers, said another dispatch  
3     table update identifying the selected server and indicating removal of the client lock.

1           39.     A method comprising:  
2     receiving a packet at a router having a port coupled with a plurality of dispatchers, the  
3           packet including a connection request from a client;  
4     transmitting the packet from the router to a first dispatcher of the plurality of dispatchers;  
5     selecting a server from a plurality of servers coupled with the plurality of dispatchers;  
6     placing a session entry in a local dispatch table of the first dispatcher, the session entry  
7           identifying the client and the selected server;  
8     broadcasting a dispatch table update from the first dispatcher to all other dispatchers of  
9           the plurality of dispatchers, the dispatch table update identifying the client and the  
10           selected server; and  
11    transmitting the packet to the selected server.

1           40.     The method of claim 39, further comprising:  
2     selecting a communication link from a plurality of communication links, each of the  
3           plurality of communication links coupling one of the plurality of dispatchers with  
4           the port of the router; and  
5     transmitting the packet over the selected communication link to the first dispatcher.

1           41.     The method of claim 40, further comprising randomly selecting the  
2     communication link from the plurality of communication links.

1           42.     The method of claim 39, further comprising:  
2     determining a load on each of the plurality of servers; and  
3     selecting the server at least partially in response to the load on said each server.

1           43.     The method of claim 39, further comprising:  
2     identifying an application associated with the packet; and  
3     selecting the server at least partially in response to the identified application.

1           44.     The method of claim 43, further comprising:  
2     placing a client lock on the packet;  
3     receiving at least one other packet at another dispatcher of the plurality of dispatchers;  
4             and  
5     transmitting said at least one other packet from said another dispatcher to the first  
6     dispatcher.

1           45.     The method of claim 39, further comprising replacing in the packet a  
2     network address associated with each of the plurality of dispatchers with a network  
3     address of the selected server.

1           46.     An article of manufacture comprising:  
2     a machine accessible medium, the machine accessible medium providing instructions  
3     that, when executed by a machine, cause the machine to  
4           maintain a local dispatch table in each dispatcher of a plurality of dispatchers, said  
5                 each dispatcher coupled with a plurality of servers; and  
6           place at least shared data in the local dispatch table of said each dispatcher.

1           47.     The article of manufacture of claim 46, wherein the instructions, when  
2     executed, further cause the machine to broadcast a dispatch table update from one  
3     dispatcher to all other dispatchers of the plurality of dispatchers.

1           48.     The article of manufacture of claim 47, the shared data identifying at least  
2     one client and a selected server of the plurality of servers.

1           49.     An article of manufacture comprising:

2     a machine accessible medium, the machine accessible medium providing instructions

3     that, when executed by a machine, cause the machine to

4           place a session entry in a local dispatch table of one dispatcher of a plurality of

5                   dispatchers, the session entry identifying a client and a server selected

6                   from a plurality of servers coupled with the plurality of dispatchers; and

7           broadcast a dispatch table update to all other dispatchers of the plurality of

8                   dispatchers, the dispatch update identifying the client and the selected

9                   server.

1           50.     The article of manufacture of claim 49, wherein the instructions, when

2     executed, further cause the machine to create a session entry in a local dispatch table of

3     each dispatcher of said all other dispatchers, the session entry identifying the client and

4     the selected server.

1           51.     The article of manufacture of claim 49, wherein the instructions, when

2     executed, further cause the machine to transmit a packet from said one dispatcher to the

3     selected server.

1           52.     An article of manufacture comprising:  
2     a machine accessible medium, the machine accessible medium providing instructions  
3     that, when executed by a machine, cause the machine to  
4           receive a packet at one dispatcher of a plurality of dispatchers, the packet  
5           including a connection request from a client;  
6           place a session entry in a local dispatch table of said one dispatcher, the session  
7           entry identifying the client and a server selected from a plurality of servers  
8           coupled with the plurality of dispatchers; and  
9           broadcast a dispatch table update to all other dispatchers of the plurality of  
10          dispatchers.

1           53.     The article of manufacture of claim 52, wherein the instructions, when  
2     executed, further cause the machine to:  
3     receive the dispatch table update at each dispatcher of said all other dispatchers; and  
4     place a session entry in a local dispatch table of said each dispatcher, the session entry  
5     identifying the client and the selected server.

1           54.     The article of manufacture of claim 53, wherein the instructions, when  
2     executed, further cause the machine to:  
3     receive a second packet at another dispatcher of the plurality of dispatchers;  
4     search the local dispatch table of said another dispatcher to identify the selected server;  
5           and  
6     transmit the second packet to the selected server.

1           55.     The article of manufacture of claim 54, wherein said another dispatcher  
2     and said one dispatcher comprise the same dispatcher of the plurality of dispatchers.

1           56.     The article of manufacture of claim 53, the second packet including a  
2     termination request from the client, wherein the instructions, when executed, further  
3     cause the machine to:  
4     remove the session entry from the local dispatch table of said another dispatcher; and  
5     broadcast another dispatch table update from said another dispatcher to all remaining  
6           dispatchers of the plurality of dispatchers, said another dispatch table update  
7           indicating the removal of the session entry.

1           57.     The article of manufacture of claim 56, wherein the instructions, when  
2     executed, further cause the machine to remove the session entry from the local dispatch  
3     table of each dispatcher of the remaining dispatchers.

1           58.     The article of manufacture of claim 56, wherein the instructions, when  
2     executed, further cause the machine to terminate a session corresponding to the session  
3     entry.

1           59.     An article of manufacture comprising:  
2     a machine accessible medium, the machine accessible medium providing instructions  
3     that, when executed by a machine, cause the machine to  
4             receive a packet at a router coupled with a plurality of dispatchers, the plurality of  
5             dispatchers coupled with a plurality of servers;  
6             select a dispatcher from the plurality of dispatchers; and  
7             transmit the packet to the selected dispatcher.

1           60.     The article of manufacture of claim 59, wherein the instructions, when  
2     executed, further cause the machine to arbitrarily select the selected dispatcher from the  
3     plurality of dispatchers.

1           61.     The article of manufacture of claim 59, wherein the instructions, when  
2     executed, further cause the machine to:  
3     search a local dispatch table of the selected dispatcher to determine a selected server of  
4             the plurality of servers; and  
5     transmit the packet from the selected dispatcher to the selected server.



1           62.     A article of manufacture comprising:

2     a machine accessible medium, the machine accessible medium providing instructions

3     that, when executed by a machine, cause the machine to

4           receive a packet at a router having a port coupled with a plurality of

5                   communication links, each of the plurality of communication links

6                   coupled with one dispatcher of a plurality of dispatchers, the plurality of

7                   dispatchers coupled with a plurality of servers;

8           select a communication link from the plurality of communication links; and

9           transmit the packet over the selected communication link to a corresponding

10                  dispatcher coupled with the selected communication link.

1           63.     The article of manufacture of claim 62, wherein the instructions, when

2     executed, further cause the machine to arbitrarily select the selected communication link

3     from the plurality of communication links.

1           64.     The article of manufacture of claim 62, wherein the instructions, when

2     executed, further cause the machine to:

3     search a local dispatch table of the corresponding dispatcher to determine a selected

4           server of the plurality of servers; and

5     transmit the packet from the corresponding dispatcher to the selected server.

1           65.     A article of manufacture comprising:

2     a machine accessible medium, the machine accessible medium providing instructions

3     that, when executed by a machine, cause the machine to

4           receive a packet at one dispatcher of a plurality of dispatchers, the plurality of

5                   dispatchers coupled with a plurality of servers;

6           search a local dispatch table of said one dispatcher;

7           transmit the packet from said one dispatcher to a server of the plurality of servers

8                   if the local dispatch table identifies the server; and

9           transmit the packet from said one dispatcher to a locking dispatcher of the

10                   plurality of dispatchers if the local dispatch table includes a client lock.

1           66.     The article of manufacture of claim 65, the local dispatch table including

2     the client lock, wherein the instructions, when executed, further cause the machine to:

3     select a server from the plurality of servers; and

4     transmit the packet from the locking dispatcher to the selected server.

1           67.     The article of manufacture of claim 66, wherein the instructions, when

2     executed, further cause the machine to broadcast a dispatch table update from the locking

3     dispatcher to all other dispatchers of the plurality of dispatchers, the dispatch table update

4     identifying the selected server and indicating removal of the client lock.

1           68.     A article of manufacture comprising:  
2     a machine accessible medium, the machine accessible medium providing instructions  
3     that, when executed by a machine, cause the machine to  
4           receive a first packet at one dispatcher of a plurality of dispatchers, the first  
5           packet including a connection request from a client;  
6           create a client lock on packets received from the client; and  
7           broadcast a dispatch table update from said one dispatcher to all other dispatchers  
8           of the plurality of dispatchers, the dispatch table update indicating the  
9           client lock.

1           69.     The article of manufacture of claim 68, wherein the instructions, when  
2     executed, further cause the machine:  
3     receive at least a second packet at another dispatcher of the plurality of dispatchers; and  
4     transmit the second packet from said another dispatcher to said one dispatcher.

1           70.     The article of manufacture of claim 69, wherein the instructions, when  
2     executed, further cause the machine to:  
3     select a server from a plurality of servers coupled with the plurality of dispatchers; and  
4     transmit the first packet and the second packet to the selected server.

1           71.     The article of manufacture of claim 70, wherein the instructions, when  
2     executed, further cause the machine to broadcast another dispatch table update from said  
3     one dispatcher to said all other dispatchers, said another dispatch table update identifying  
4     the selected server and indicating removal of the client lock.

1           72.     A article of manufacture comprising:  
2     a machine accessible medium, the machine accessible medium providing instructions  
3     that, when executed by a machine, cause the machine to  
4             receive a packet at a router having a port coupled with a plurality of dispatchers,  
5             the packet including a connection request from a client;  
6             transmit the packet from the router to a first dispatcher of the plurality of  
7             dispatchers;  
8             select a server from a plurality of servers coupled with the plurality of  
9             dispatchers;  
10            place a session entry in a local dispatch table of the first dispatcher, the session  
11            entry identifying the client and the selected server;  
12            broadcast a dispatch table update from the first dispatcher to all other dispatchers  
13            of the plurality of dispatchers, the dispatch table update identifying the  
14            client and the selected server; and  
15            transmit the packet to the selected server.

1           73.     The article of manufacture of claim 72, wherein the instructions, when  
2     executed, further cause the machine to:  
3     select a communication link from a plurality of communication links, each of the  
4           plurality of communication links coupling one of the plurality of dispatchers with  
5           the port of the router; and  
6     transmit the packet over the selected communication link to the first dispatcher.

1           74.     The article of manufacture of claim 73, wherein the instructions, when  
2     executed, further cause the machine to randomly select the communication link from the  
3     plurality of communication links.

1           75.     The article of manufacture of claim 72, wherein the instructions, when  
2     executed, further cause the machine to:  
3     determine a load on each of the plurality of servers; and  
4     select the server at least partially in response to the load on said each server.

1           76.     The article of manufacture of claim 72, wherein the instructions, when  
2     executed, further cause the machine to:  
3     identify an application associated with the packet; and  
4     select the server at least partially in response to the identified application.

1           77.     The article of manufacture of claim 76, wherein the instructions, when  
2     executed, further cause the machine to:  
3     place a lock on the packet;  
4     receive at least one other packet at another dispatcher of the plurality of dispatchers; and  
5     transmit said at least one other packet from said another dispatcher to the first dispatcher.

1           78.     The article of manufacture of claim 72, wherein the instructions, when  
2     executed, further cause the machine to replace in the packet a network address associated  
3     with each of the plurality of dispatchers with a network address of the selected server.